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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CLEMENS JOHANNES DE VROOME

Appeal 2008-0232
Application 10/764,774
Technology Center 1700

Decided: January 30, 2008

Before CHARLES F. WARREN, LINDA M. GAUDETTE, and
MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

COLAIANNI, *Administrative Patent Judge*.

DECISION ON APPEAL

1 Appellant appeals under 35 U.S.C. § 134 the final rejection of claims 1-3, 7, 8, and 15. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b).

We AFFIRM.

INTRODUCTION

Appellant claims a cooling roll stand comprising, in relevant part, a device for applying a liquid mixture of a silicone oil concentrate and at least water to a web-shaped printing material, the device having a buffer tank for the silicone oil concentrate separated from the mixing tank (claim 1).

Claim 1 is illustrative:

1. A cooling roll stand comprising:

a device for applying a liquid mixture of a silicone oil concentrate and at least water to a web-shaped printing material, the device having:

a reservoir for the silicone oil concentrate,

a supply source for the water,

a mixing tank for the silicone oil concentrate and the water,

an applicator for transferring the liquid mixture onto the printing material, the applicator having at least one container for the liquid mixture, and

a buffer tank for the silicone oil concentrate separated from the mixing tank, the buffer tank receiving the silicone oil concentrate from the reservoir; and

a cooling roll for the web-shaped printing material.

The Examiner relies on the following prior art references as evidence of unpatentability:

Hartmann (as translated)¹ DE 19650125 A1 Jun. 4, 1998

¹ The Examiner and Appellant refer to the Hartmann reference as “Werner.” The German reference and the translation indicate that Werner is the

The rejection as presented by the Examiner is as follows:

1. Claims 1-3, 7, 8, and 15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Menet in view of Hartmann.

Appellant separately argues claims 1-3, 7, and 8. Accordingly, claim 15 stands or falls with claim 1, from which it depends.

OPINION

CLAIM 1

The Examiner finds that Menet discloses all of the features of claim 1, including a coating supply arrangement wherein a buffer tank could be used (Ans. 3). However, the Examiner finds that Menet is silent concerning the coating material supply including a buffer tank in combination with a mixer wherein liquid coating material from a supply reservoir is received in a buffer tank prior to introduction to the mixer (Ans. 3). The Examiner finds that Hartmann discloses that it is known in the coating art to use a buffer tank to control introduction of coating material to a mixer (Ans. 3). The Examiner further finds that Hartmann discloses the benefit of using a buffer tank to store a smaller content of the liquid coating material in case of a process change (Ans. 3). The Examiner concludes that it would have been obvious to provide a buffer tank as taught by Hartmann in communication with the silicone based reservoir prior to the mixer system of Menet in order

applicant's first name and Hartmann is his last name. Accordingly, we refer to the German reference as "Hartmann" in this Decision. The Hartmann page numbers referenced in this Opinion are the ones indicated in the translation as corresponding to the foreign document pagination.

to temporarily store a smaller amount of liquid coating material in case of a process change (Ans. 4).

Appellant argues that Menet is non-analogous art because it supplies the release agent to a roller that casts liquid metal, which is a different field of endeavor than an applicator that supplies coating material to “a web-shaped printing material” as claimed (Br. 5). Appellant argues that because Hartmann is directed to diluting dyes and textiles, there is no motivation to combine Hartmann’s buffer tank with Menet’s device for applying release agent to a metal forming roller (Br. 5). Appellant argues neither Hartmann nor Menet disclose a buffer tank for silicone oil (Br. 5). Appellant further argues that Menet’s disclosure that the mixer 40 may be a buffer tank teaches away from using a buffer tank with a mixer (Br. 5).

We have considered all of Appellant’s arguments and are unpersuaded for the reasons below.

Menet discloses a device for applying a coating of release agent to metal casting rollers (Menet ¶ [0001]). Menet discloses that the supply system for the applicator may include a tank 34, a mixer 40, a carrier fluid supply line 30, and a release agent feed regulator 32 (Menet ¶¶ [0044] to [0046]). Menet further discloses that the mixer 40 may also be a buffer tank and may have a volume of 1 to 2 liters (Menet ¶ [0045]).

Hartmann discloses a device for applying a coating of a dye and thickener combination on a textile (Hartmann 2). Hartmann discloses that a goal of the device is to minimize the amount of thickener remaining in the device (Hartmann 2). To achieve this goal, Hartmann uses an intermediate tank (i.e., buffer tank) that is smaller than the storage vessel containing the dye or thickener (Hartmann 2). Hartmann indicates that the intermediate

tank (i.e., buffer tank) keeps the amount of the thickener to be managed as small as possible because this small amount will be the portion discarded during a pattern change (i.e., process change) (Hartmann 2). Hartmann discloses that the intermediate tank (i.e., buffer tank) should be less than 200 liters in volume (Hartmann 2).

Generally, analogous art includes art within an applicant's field of endeavor and may include art that is not in applicant's field of endeavor. *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1742 (2007) ("Common sense teaches, however, that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle"). Analogous art may also include art designed to solve any problem, not only the problem that an applicant seeks to solve. *Id.*

Contrary to Appellant's argument, Menet's and Hartmann's disclosures noted above reveal that their devices are in the same field of endeavor as Appellant's device: the coating apparatus arts. Accordingly, Appellant's non-analogous art argument is unpersuasive.

Regarding Appellant's motivation argument, we find that motivation is provided by Hartmann and Menet for the combination. Specifically, Hartmann discloses the purpose of using the intermediate tank (i.e., buffer tank) is to minimize the amount of material that needs to be discarded during a pattern change (i.e., process change) (Hartmann 2). Menet also discloses that a buffer tank may be used with the device (Menet ¶ [0045]). Accordingly, it would have been obvious to incorporate Hartmann's intermediate tank (i.e., buffer tank) arrangement with Menet's device for

applying release agent to minimize the amount of material that would need to be discarded or removed during a process change.

We add that using Hartmann's buffer tank in Menet's device for applying release agent would have been *prima facie* obvious because such is merely the predictable use of a prior art element (i.e., a buffer tank) according to its established function (i.e., storing a small quantity of a fluid). *KSR*, 127 S. Ct. at 1740.

We further add that Menet discloses that a buffer tank and mixer are interchangeable (Menet ¶ [0045]). In other words, Menet discloses that the buffer tank or mixer, both of which have different functions, may be used in the release agent applicator. A combination which only unites old elements with no change in their respective functions would have been obvious. *KSR*, 127 S. Ct. at 1739.

Thus, Menet's disclosure alone suggests that it would have been obvious to implement both a buffer tank and a mixer in the release agent applicator because such a combination would have predictably united prior art elements (i.e., the buffer tank and mixer) according to their established functions (i.e., mixing and holding fluids). *KSR*, 127 S. Ct. at 1739-40.

Moreover, Hartmann evinces that such a combination of an intermediate tank (i.e., buffer tank) and mixer is well known in the coating apparatus art, thereby supporting a conclusion that it would have been obvious to combine Menet's buffer tank and mixer with the release agent applicator. *In re Translogic*, 504 F.3d 1249, 1262 (Fed. Cir. 2007). While other combinations of the buffer tank and mixer may have been used in Menet's release agent applicator, an intermediate tank (i.e., buffer tank) feeding the mixer is a well known coating apparatus structure as evinced by

Hartmann, such that one of ordinary skill in the art would have recognized the value of using the known combination (i.e., the buffer tank and mixer).
Id.

Regarding Appellant's argument that neither Hartmann nor Menet disclose a buffer tank for the silicone oil concentrate, we understand Appellant to be arguing that the buffer tank of Hartmann is used for dyes and not silicone oil concentrate such that the claim feature is not disclosed. However, Appellant's recitation that the buffer tank is "for the silicone oil concentrate" is merely an intended use. The purpose to which the apparatus is to be put and expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969).

Furthermore, because Menet's device for applying a release agent alone or as modified with Hartmann's buffer device discloses the structure of the claimed device, it is capable of performing the intended use (i.e., holding and applying silicone oil concentrate). A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (BPAI 1987).

Regarding Appellant's argument that Menet teaches away from a buffer tank by stating that the mixer 40 may also be a buffer tank, we do not agree. Rather, as indicated above, we determine such a teaching to be an added suggestion to use a buffer tank with Menet's device.

For the above reasons, we sustain the Examiner's § 103 rejection of claims 1 and 15 over Menet in view of Hartmann.

DEPENDENT CLAIM 2

Appellant argues that neither Menet nor Hartmann disclose a flow of silicone oil through a supply line from a buffer tank to the mixing tank and a valve in the supply line operated by a control unit so that a continuous, quasi-continuous or intermittent flow is produced (Br. 5).

We have considered Appellant's arguments and are unpersuaded for the reasons below.

With regard to dependent claim 2, Menet discloses placing a release agent feed regulator 32 in the channeling means 31, 33 that connect tank 34 with the mixer 40 (Menet ¶ [0046]).

Hartmann discloses using a delivery line 27 with valves 25 connected to a control unit 34 to regulate the valves 25 so as to control the flow of the coating material to the mixer 30 (Hartmann 3). Hartmann discloses that the control unit 34 regulates the valves 25 and pump 23 to feed "steady and uniformly" (i.e., continuously) the coating material to the mixer 30 (Hartmann 3).

From these disclosures, we conclude, as the Examiner did (Ans. 8), it would have been obvious to combine Hartmann's delivery line, valves and flow control mechanisms leading from an intermediate tank (i.e., buffer tank) to a mixer tank with Menet's device for applying release agent to metal casting rollers to provide and control the flow within the coating system as taught by Hartmann (Hartmann 3).

Furthermore, it would have been obvious to combine Hartmann's delivery line, valves and flow control mechanisms leading from an intermediate tank (i.e., buffer tank) to a mixer tank with Menet's device for applying release agent to metal casting rollers because such is merely the predictable use of prior art elements (i.e., delivery lines, valves, and control units) according to their established functions (i.e., directing fluid flow and providing control of the fluid flow). *KSR*, 127 S. Ct. at 1740.

Contrary to Appellant's argument, we find that the argued claim feature is taught by the combination of Menet in view of Hartmann.

For the above reasons, we sustain the Examiner's § 103 rejection of claim 2 over Menet in view of Hartmann.

DEPENDENT CLAIM 3

Appellant argues that neither Hartmann nor Menet disclose providing a second supply line having a second valve regulated by a control unit from the supply source to the mixer (Br. 6).

We have considered Appellant's argument and are unpersuaded for the reasons below.

Menet discloses providing a supply line 30 for the carrier fluid (e.g., water) leading into the mixing tank (Menet ¶ [0044]).

Hartmann discloses that it is known in the art to use valves and control units to regulate the opening and closing of the valves so as to control fluid flow (Hartmann 3).

Based on these disclosures, it would have been obvious to combine Hartmann's valve and control unit with Menet's supply line 30 in the device

for applying release agent to a metal casting roller to provide flow control of the water supply to the mixing tank.

As with claim 2, it would have been obvious to combine Hartmann's valve and flow control mechanisms with Menet's carrier fluid feed 30 (i.e., second supply line) in the device for applying a release agent to metal casting rollers because such is merely the predictable use of prior art elements (i.e., valves and control units) according to their established functions (i.e., providing fluid flow control). *KSR*, 127 S. Ct. at 1740.

Contrary to Appellant's argument, we determine that the argued claim feature is taught by the combination of Menet in view of Hartmann.

Accordingly, we sustain the Examiner's § 103 rejection of claim 3 over Menet in view of Hartmann.

CLAIM 7

Appellant argues that there is no motivation for having a smaller volume for the mixing tank than the buffer tank (Br. 6).

We have considered Appellant's argument and are unpersuaded for the reasons below.

Menet discloses using a mixing tank having a low capacity (e.g., 1 to 2 liters) (Menet ¶ [0045]). Menet discloses that using a low capacity permits an operator to change rapidly the concentration of release agent contained in the release product (Menet ¶ [0045]). Menet also discloses that using a low capacity mixing tank avoids sedimentation in the tank (Menet ¶ [0047]).

Hartmann discloses using an intermediate tank (i.e., buffer tank) with a substantially smaller volume than the storage vessel (i.e., reservoir) that feeds the intermediate tank (i.e., buffer tank) (Hartmann 3). Hartmann

discloses that the intermediate tank (i.e., buffer tank) capacity should be less than 200 liters (Hartmann 2).

Contrary to Appellant's argument, we find there is motivation for combining Hartmann's small intermediate tank (i.e. buffer tank) with Menet's device for applying a release agent. Specifically, based on the above disclosures, we conclude that it would have been obvious to combine Hartmann's small intermediate tank (i.e., buffer tank) with Menet's device for applying a release agent having a small mixing tank such that the mixing tank is smaller than the intermediate tank (i.e., buffer tank) to permit the concentration of the release agent to be varied rapidly and prevent sedimentation in the mixing tank (Menet ¶¶ [0045], [0047]).

Moreover, it would have been obvious to combine Hartmann's smaller intermediate tank (i.e., buffer tank) capacity with Menet's device for applying a release agent such that the mixing tank is smaller than the intermediate tank (i.e., buffer tank) because such is merely the predictable use of prior art elements (i.e., the capacity of various tanks) according to their established functions (i.e., maintaining a sufficient level of material in the tanks and permitting the quick change of concentration in the tanks). *KSR*, 127 S. Ct. at 1740.

For the above reasons, we sustain the Examiner's § 103 rejection of claim 7 over Menet in view of Hartmann.

CLAIM 8

Appellant argues that neither Menet nor Hartmann disclose the capacities of the mixing tank and buffer tank recited in claim 8 (Br. 6).

We have considered and are unpersuaded by Appellant's argument for the reasons below.

Menet discloses that the mixer (i.e., mixing tank) has a capacity of 1 to 2 liters (Menet ¶ [0045]). Menet further discloses that the size of the mixer (i.e., mixing tank) is advantageously of a low capacity so that the concentration may be varied rapidly and the size of the installation may be kept small (Menet ¶¶ [0045], [0047]).

Hartmann discloses that the intermediate tank (i.e., buffer tank) has a smaller volume than the storage tank that supplies it (Hartmann 3). Hartmann discloses that the capacity of the intermediate tank (i.e., buffer tank) should be kept very low to minimize the amount of material needed to be discarded in response to a pattern change (i.e., process change) (Hartmann 2). The intermediate tank may have a capacity of less than 200 liters (Hartmann 2).

Discovery of an optimum value of a result-effective variable is ordinarily within the skill of the art. *In re Boesch*, 617 F.2d 272, 276 (CCPA 1980).

In the present case, Menet and Hartmann recognize the capacities of the tanks to be result-effective variables. Specifically, Menet discloses that the mixer capacity should be small so that the concentration of the release agent in the release product may be varied rapidly (Menet ¶ [0045]). Hartmann discloses that the intermediate tank (i.e., buffer tank) capacity is kept small to minimize the amount of material that must be discarded during a pattern change (i.e., process change) (Hartmann 2).

Accordingly, it would have been obvious to optimize the volume of the intermediate tank (i.e., buffer tank) to be approximately 10 liters and the

mixer volume to be approximately 1 liter in view of Hartmann's and Menet's disclosure that such variables are art recognized result-effective variables. *Boesch*, 617 F.2d at 276. We note that Menet discloses the size of the mixer being 1 to 2 liters and Hartmann disclose the size of the intermediate tank (i.e., buffer tank) being less than 200 liters, which include Appellant's claimed capacities.

For the above reasons, we sustain the Examiner's § 103 rejection of claim 8 over Menet in view of Hartmann.

DECISION

We sustain the Examiner's § 103 rejection of claims 1-3, 7, 8, and 15 over Menet in view of Hartmann.

The Examiner's decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

tf/lb

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